12-V Light Organ

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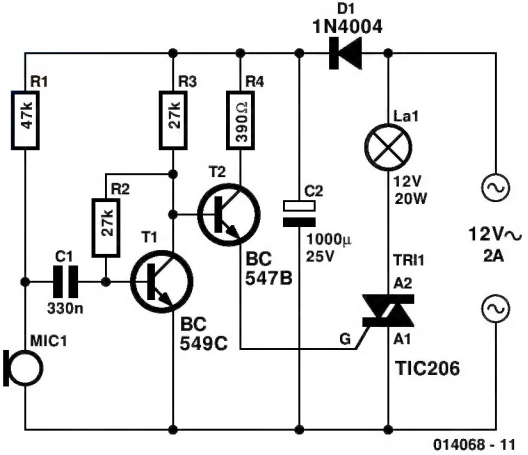
Many people would like to build a light organ but are scared off by the dangerous mains voltage. A direct electrical connection to the amplifier should also be avoided. The light organ circuit presented here has been developed for 12-V halogen lamps and is controlled by sound waves. All you need is a triac, a condenser microphone and a few other components.

The electret condenser microphone needs a supply voltage, since it has a build-in amplifier. A supplementary transistor stage amplifies the microphone signal and feeds it to the gate of the triac. Nearly any type of triac in a TO220 package can be used here (such as a TIC206, TIC216 or TIC226). The circuit is powered from the halogen lamp transformer. A mini power supply, consisting of a rectifier diode and a filter capacitor, generates an unregulated but still satisfactory dc voltage for the amplifier.

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